The Howard Journal of Communications, 16:49–70, 2005

ISSN: 1064-6175 print/1096-4349 online
DOI: 10.1080/10646170590915862

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A Comparison of Environmental Pollution Coverage in the Mainstream, African American, and Other Alternative Press

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Research has suggested that the present media merger frenzy will result in one-dimensional content due to a reduced number of media outlets and pervasive cross-ownership. This research content analyzed 1,180 articles about environmental pollution over 29 years from 4 different groups of newspapers, each with different ownership, socioeconomic readership, geographic location, and circulation. Results revealed that content was overwhelmingly directed to upper-socioeconomic groups across all four categories of newspapers regardless of specific issue or time. Heavily weighted coverage that could not have been found through random chance alone indicated an abandonment of a newspapers' social responsibility function. This abdication was attributed to the industry-wide, pervasive journalistic norms and the importance of advertising revenue.

KEYWORDS environmental pollution, alternative press, African American press, framing, socioeconomic readership, journalism norms

One of the principal points of opposition against the present media merger frenzy is the fear that a monolithic media will create content that is one-dimensional. This prediction of what could appear in the future (or possibly

An earlier version of this paper was presented to the *International Communication Association Conference*, May 2002, San Francisco and won the top paper award for the Political Communication Division.

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what has already befallen media) is based on a precept that past media offered a multiplicity of voices because of the sheer number of media outlets available. While there is limited research examining content from divergent media outlets over a protracted period of time on one specific issue, the widespread assumption is that smaller, alternative presses often cover issues very differently than mainstream outlets. This research examines 29 years of media coverage from divergent outlets concerning one pressing and enduring issue: environmental pollution.

The stated purpose of alternative press and smaller media outlets has long been to offer a perspective unique for its readers often not found in standard media fare. This driving professional precept is academically grounded in numerous studies that purport media do not mirror reality (Lippman, 1921; Jeffres, 1986; Tan, 1985). Rather, "different media produce different content" (Shoemaker & Reese, 1990, p. 650). Research has contended that these differences in representation are a reflection of particular journalistic and business norms that tend to fluctuate in their *degree* depending on the specific type and size of media outlet. Media scholars and practitioners contend that unique, individual press outlets serve a basic social responsibility function to each distinctive community that they serve. The purpose of this research is to examine this widely accepted precept, which holds that in order to meet their social responsibility function the alternative press report issues differently in response to their unique readership.

This analysis aimed to uncover if there were any tangible differences between newspapers that would reflect each outlet's unique socioeconomic readership or geographic-specific issues. Certainly, there have been several national and international issues since 1972 that may have temporarily dominated environmental coverage: the Arab Oil embargo, the meeting of the World Climate Conference in 1979, the Exxon Valdez oil spill, the catastrophe in Bhopal, India, and the radioactive contamination in Chernobyl, Ukraine, are just a few obvious examples. These national and global disasters pushed environmental causes into the media spotlight fairly consistently over the period of examination. Yet, while national disasters have certainly played a large role in determining a portion of coverage, there were certainly many local issues that presumably gained the attention of media because of geographic proximity and personal relevance to its core audience. For example, if newspapers were aimed at fulfilling their unique, community-level social responsibility function, it could be assumed that Los Angeles papers would report on automobile pollution much more than newspapers within New York City, where the overwhelming majority of the population depend on mass transit. Similarities in coverage across newspapers would suggest that regionally specific and readership-specific content aimed at fulfilling a social responsibility function for the media might have been subsumed under pervasive journalism and business norms.

INFLUENCES ON MEDIA CONTENT

Journalism Norms

In their examination of "classic" research studies from the 1950 s, Reese and Ballinger (2001) divided the forces that shape media messages into personal views, media routines, media organizations, external pressures, and ideolical perspectives. Seen as a "hierarchy of influences", this chain of influence is highly inter-related and begins at the most basic level of personal values. In the United States, the emphasis of academic research has historically been placed on the lower levels, examining how individuals construct media content (Reese & Ballinger, 2001). This sociology of the news begins with Gans (1979), who found that a journalist's personal values and beliefs affect how she or he frame stories and what types of stories they report. Gans found that journalists hold certain values that cannot be extracted from their writing and that these values are taught to journalists through his or her education, coworkers, and superiors. The values of journalists were originally said to be ethnocentricism, altruistic democracy, responsible capitalism, small-town pastoralism, individualism, moderate positions, adherence to social order, and national leadership.

Thus, Gans argued that these specific values are learned through principally two sources: formal education and the individual organization. Reese (1990) found in his seminal piece concerning a socialist at the *Wall Street Journal* that journalists must work within this value system or ideology when creating media content. If a reporter deviates from this norm, she or he will face an inevitable reprimand or "repair" from within the organizational system. Tuchman (1978), in her examination of news objectivity, concurred that it is not the news topic itself that makes a subject newsworthy but its relationship to the values of news media.

Embedded within the values of the news industry, routines have been found to "form the immediate context, both within and through which these individuals do their job" (Shoemaker & Reese, 1990). *Routines* are the patterned, repeated practices of a larger group or organization in which a person knowingly or unknowingly participates. Thought of another way, routines are the values of a specific organization put into practice. The routines one follows are predicated upon what others in that specific organization have historically done. Following routines of collecting sources, journalists essentially dictate—to a large extent—what is included in a report and what is omitted (Berkowitz, 1992). These consistent contact procedures in newsgathering consequently define what is expected and what constitutes news. If a reporter masters routine methods of newsgathering, such as asking the right sources or finding the right angle, they are generally praised for their professionalism (Tuchman, 1978).

These organizational-specific routines stem from standards of importance inherent within the news business itself. According to Shoemaker and Reese (1990), a story's prominence, human interest, level of controversy; unusualness, timeliness, and proximity dictate the importance of a news story. Each journalist must decide from her or his own values, organizational values, and perhaps more importantly, from business influences if a story fits within their organizational routine guidelines.

Business Norms

Since White's (1950) seminal article asserting that journalists act as gatekeepers of information, researchers have been examining the higher-level influence of ownership in dictating content (Gitlin, 1980; Shoemaker & Reese, 1991). As media conglomerates continue to grow (Bagdikian, 2000)—at last count six firms controlled news, entertainment, and commentary in the United States—this interest has intensified. If indeed the ultimate control of a business lies in its owner, some research has suggested that the only way to differentiate content is to differentiate owners (Shoemaker & Reese, 1990). Indeed, ownership has been suggested to be paramount in deciding journalism norms, behaviors, and routines because it is the owners who—either directly or indirectly—have the greatest influence over the final product (Bagdikian, 2000; Boylan, 1986; Breed, 1955; Compaine, 1985; Hallin, 1992). This influence on content may be based on the owner's relationship with the community. Shoemaker and Reese (1990) stated that "the greater the physical distance of the owners from the community being served, the more community interests may take a backseat to corporate and economic factors" (p. 167). These researchers suggest that without an undivided interest in the surrounding community, media owners are more apt to supplant consumer interests with corporate subsidies.

Yet, other scholars argue that it is the readership of a news outlet that has been the overriding factor affecting content (McManus, 1994). Profit has become a central organizational goal for news outlets (Demers, 1996) due to the explosion of media channels and the resulting competition for advertisers and readership share. Effectively reaching targeted readership has pushed editors and other newspaper management to consider readers first when making content decisions (Schoenbach & Bergen, 1998). While this practice has been seen as more common in broadcast journalism (Curtin, 1996), newspapers have now begun to question the historically strong separations between editorial and business that have been likened to the division between church and state (Prochnau, 2000). Indeed, as mass media continue to multiply, some contend that newspapers should become more 'product like' and employ a marketplace theory (Beaudoin & Thorson, 2002).

Critics of this practice assert that by crafting content specifically for readers of a particular market, journalism is ignoring a basic social responsibility

function (Bagdikian, 2000). Schoenbach, Lauf, McLeod, and Scheufele (1999) argued that the desire for targeted readership is intrinsically tied to advertising interests and the socioeconomic class of its readers. Newspapers now must appear upper-class and expensive (even if they aren't) to appeal to advertisers. In defining appropriate news for specific readers, media management often search for 'class appeal' to attract potential and present advertisers (Blankenburg, 1992). The allure of advertising revenue can be a strong incentive to streamline editorial content so that it is more relevant to prized upper-demographic groups (Koschat & Putsis, 2000). In the end, McManus (1994) contended, it is these business considerations that supercede all other concerns because advertiser and investor interests inherently supplant ideals of social responsibility in a corporate news model. However, most of the research in this area has been anecdotal and few empirical tests of this theory have been successfully attempted (Gross, Craft, Cameron, & Antecol, 2002).

The influences of journalist norms, such as values and routines and business norms, more succinctly defined as *organizational ownership*, *economic forces*, and *newspaper readership*, have all been central in the argument against media convergence. However, there is little research that examines media content over an extended period of time from divergent media outlets to uncover if content is actually different according to ownership or distinct socioeconomic readership—a finding that would support the diversification of media, thereby diffusing monolithic norms, routines, and organizational structures. Conversely, if research discovered that content remained unchanging regardless of the type of media outlet, it would suggest that larger, industry-level demands are surpassing organizational forces, such as routines and ownership, and have become so deeply entrenched that diversification of media could prove irrelevant unless fundamental changes occurred within the industry as a whole.

HYPOTHESES

In examining possible differences between press outlets, content about pollution was evaluated from articles within four different groups of socioeconomically targeted and geographically located newspapers. Los Angeles and New York were selected as geographically differentiated cities with at least two largely divergent newspapers in relation to household income readership.

Based on a review of previous research, seven hypotheses were formulated that explicitly explore the differences and similarities between the mainstream and alternative press in Los Angeles and New York for the issue of pollution. These hypotheses tested differences between newspapers and over time as to who was framed as the cause, effect and responsible agent for pollution in newspaper content; the stated likelihood that pollution could

be solved; the use of individual-level terms, such as environmentalist as well as mentions of civil rights and socioeconomic factors tied to pollution; the use of scientific jargon in covering pollution; and the macro-frame of pollution in the press. The hypotheses are as follows:

H1: Individuals and non-profit citizen organizations will be less likely framed in newspaper coverage as the cause, effect, and responsible agent for the pollution than the government, industry, natural forces or neutral frames.

H2: Newspaper coverage of pollution will be less likely to mention possible solutions than to mention no likelihood of solving pollution.

H3: Newspaper coverage of pollution will be less likely to mention the term environmentalist, civil rights and socioeconomic factors than to omit mentioning these in coverage.

H4: Newspaper coverage of pollution will be less likely to use simple terminology than to rely on a heavy use of scientific terminology in coverage.

H5: Newspaper coverage of pollution will be less likely to thematically frame the issue through the seven other frames offered than to thematically frame the issue as government regulation.

H6: Newspaper coverage of pollution is less likely to demonstrate statistically significant changes over the 29-year sample period than to cover pollution consistently over the 29-year sample period.

H7: *The New York Times* and *The Los Angeles Times* will be less likely to report socioeconomic relevance and community involvement than the lower-socioeconomic newspapers in both regions.

METHODOLOGY

In order to make stronger conclusions as to the pervasiveness of coverage across the country, New York and Los Angeles were chosen for study. These two cities in particular were selected for two reasons: first, each city had at least two newspapers and second, the two newspapers in each city had the largest differences in household income readership levels across the country. Also, New York and Los Angeles have been consistently ranked within the top 10 air polluted cities over the last 40 years, according to Environmental Defense (2000), thereby ensuring a significant pool of content to sample.

Dividing newspapers according to socioeconomic readership was done to test if indeed newspapers were creating content relevant to their readership, or if content was skewed towards an upper-socioeconomic readership level as some research has argued (Bagdikian, 2000). This factor was important in ascertaining whether coverage of pollution remained unchanged across different types of newspapers. Also, this factor was significant as it

monitors what media content those in lower socioeconomic classes may have been exposed to.

Sample

The final tally of articles included for study was 1,180. The result was that the *New York Times* (daily circulation of 1,086,293) with average readers having a household income of $66,700 per year and the *Los Angeles Times* (daily circulation of 1,078,186) with average readers having a household income of $50,000 per year (McClintic, 1998) were chosen for inclusion in the study. The *New York Times* is owned by The New York Times Company and the Tribune Company owns the *Los Angeles Times*. The two parent companies combined own more than 40 newspapers as well as several television and radio stations. The fact that the *New York Times* was included in this study undoubtedly gives a more accurate summation of what all Americans were reading about air pollution due to the powerful influence that the *New York Times* has on other papers throughout the country (Dreier, 1982; Gans, 1979; Reese & Danielian, 1989; Shoemaker & Reese, 1991).

Newspapers with low socioeconomic readership were combined within a general pool due to a dearth of resources available. Newspapers that target lower socioeconomic groups have not historically carried indexes of their publications. Therefore, the NewsBank historical index was utilized to gather content from these newspapers. Within the Los Angeles area, the lower-socioeconomic newspaper *San Bernardino Sun* (owned by MediaNews Group) with an average household income of $36,400 was sampled as well as the *Herald Examiner* and the *Los Angeles Daily News* (daily circ. 200,387), which is also owned by the MediaNews Group. Due to the continued conflation of race and income in the United States, several Black press newspapers, such as *the Los Angeles Herald Dispatch* (owned by the Herald Dispatch Publishing company, that owns two other small newspapers), the *Los Angeles Sentinel* (founded in 1933 by Leon H. Washington and privately owned), the *Southeast Wave Star*, and the *Southside Journal* were included as well.There is not conclusive socioeconomic data available for all of these newspapers. However, the newspaper with clearly the highest socioeconomic readership of this group is the *Los Angeles Daily News* (average household income of $44,500), whose readers still have incomes far below those who read the *Los Angeles Times* (McClintic, 1998). The African American alternative papers (*Los Angeles Herald Dispatch, Los Angeles Sentinel*, *Southeast Wave Star*, and *Southside Journal*) were examined both separately as a group and with the other smaller, alternative papers included for this study (*San Bernardino Sun*, *Herald Examiner*, and *Los Angeles Daily News*). Taken in total, all of the lower-socioeconomic newspapers were selected for three specific reasons: their relative difference in socioeconomic readership from the first two newspapers chosen—the *New York Times* and the *Los Angeles Times*;

their inclusion in the NewsBank database; and the organization of NewsBank, which divides their publication listings into general city locations rather than individual newspapers.

In New York City, the lower-socioeconomic group of papers included the *New York Daily News* (owned by the News Corporation), with an average household income of $42,200 and a daily circulation of 730,761. In addition, the *New York Post* and African American press newspapers titled the *New York Voice*, the *New York Beacon* (owned by Smith Haj Group, which owns one other newspaper), and the *Amsterdam News* (privately owned by Bill Tatum) were in this general pool. While there is not conclusive readership information from these newspapers, the *New York Daily News* appears to have the highest socioeconomic readership, which is $24,500 less than *New York Times'* readers. The African American alternative papers (*New York Voice*, *New York Beacon*, and *Amsterdam News*) were examined both separately as a group and with the other smaller, alternative papers included for this study (*New York Daily News* and *New York Post*).

Articles were sampled from 1972 until 2000. The initial date was selected due to the fact that indexes for large newspapers, outside of the *New York Times*, generally began that year. In addition, other research has found that coverage of environmental issues and the environmental movement was sparse during the sixties and grew exponentially after the first Earth Day in 1970 (Schoenfeld, Meier, & Griffin, 1979). Thus, examining content in the sixties would not have added much supplementary information to the study.

Articles from all of the newspapers, with readerships from upper- and lower-socioeconomic groups, were retrieved if the term *air pollution* was in the headline or lead paragraph. The issue of air pollution specifically was chosen due to the finding of several studies that pollution affects those in lower-socioeconomic classes at a highly disproportionate rate (Bryant & Mohai, 1992; Bullard, 1994; Lee, 1992; Schwab, 1994). Thus, one would expect to find a large amount of coverage applicable to those in lower-socioeconomic classes in newspapers that targeted those in lower economic groups.

Coding Procedures

The nine coding categories (cause, effect, responsibility, solution likelihood, 'environmentalist', civil rights, socioeconomic factors, scientific terminology, and thematic frame of the issue) used for this study were included either due to their usage in previous research or for their perceived relevance to the fundamental research question of this study. Taken in total, these nine variables aimed to uncover socioeconomic-specific and geographic-specific relevance within pollution newspaper content over the 29-year sample period.

The issue of air pollution was composed of three main attributes: cause, effect and responsibility. Meaning, within each article, coders were asked to ascertain who caused the pollution, who was affected by the pollution, and

who was responsible for correcting the problem. Within each attribute variable, several values were possible: government, industry, social movement, individual, and natural. For example, a given article could have found that government was the cause of pollution, individuals were largely affected by pollution and social movements were responsible for correcting the problem. Coding was not restricted to only one frame per attribute. Rather, up to five values per each attribute variable were possible (although, extremely unlikely). As Klandermans and Tarrow (1988) first argued, it is possible to gain a deeper understanding of the overall perception of an issue through these cause, effect and responsibility definitions of the issue itself.

Examining the cause, effect, and responsible agent for air pollution was important to place findings in a socieconomically-relevant context, as lower-socioeconomic classes have a distrust of industry and government (Howell & Fagan, 1988). In addition, coding in this manner addressed issues of personal responsibility through locating social movements or individuals as the cause, effect, or responsible agent. At the individual level, questions of socioeconomic-specific relevance were sought as well. If the "individual" frame was chosen within any attribute then these individual frames were coded saccording to socioeconomic relevance.

For the individual value within each cause, effect, and responsibility variable, coders were given the following choices: personal health, individual auto use, disregard for non-automotive transportation such as bicycle use and walking, individual population control, smoking, improving household efficiency (heating appliances, burning wood, coal, oil or gas, water piping, foam insulation, building materials, etc.), household gardening (native plants & trees), minimizing consumable consumption, boycotting polluting businesses, and other. If other was chosen, then the precise reason was noted. Within these categories, personal health was viewed as applicable to all socioeconomic levels. While a case could be made that health effects on lower-socioeconomic groups were more pronounced due to a lack of medical care, the effects themselves before treatment, were deemed equal. Smoking was viewed as slightly more relevant to those in lower-socioeconomic classes due to the strong inverse relationship between smoking and income in adults worldwide (Beech, Droker, Pree-Cary, & Scarinci, 2000; World Health Organization, 1997) although clearly, there are those in all classes that smoke. Individual auto use, disregard for non-automotive transportation, minimizing consumable consumption and boycotting polluting businesses was constructed as slightly more applicable and relevant to upper-socioeconomic classes, due to the intrinsic availability of material options as socioeconomic status increases. Finally, improved household efficiency, household gardening, and individual population control were viewed as more relevant to upper-socioeconomic classes. Household efficiency and home gardening were included in this category due to the relatively large amount of money needed for a down payment on a home and the sustained funds needed for

mortgage payments. Population control was included as an issue more relevant to upper-socioeconomic classes because recent research has shown that as individual incomes and education rise, birth rates drop significantly (CNN, 1999).

In an effort to ascertain political apathy towards the issue of pollution across all socioeconomic classes, coders were asked to discern what the text suggested was the likelihood of solving pollution. Coders were given five choices along a Likert scale: extremely unlikely, unlikely, not mentioned, likely, extremely likely. Only direct mentions concerning the likelihood of solving pollution were coded.

Direct mentions of the term environmentalist was coded within article content. This was completed to gain a stronger understanding of the level of individual responsibility for environmental pollution conferred by media. In addition, any articles suggesting pollution as one rooted in a struggle for civil rights were coded in this study as well as mentions of socioeconomic factors in environmental coverage. A connection between civil rights and air pollution was determined if race, individual identity, or civil rights organizations were mentioned in relation to environmental destruction. Connecting air pollution to socioeconomic factors was only possible if income, specific economically divided geographic locations or education levels were mentioned. As previous research has shown, connecting social activist causes with civil rights issues of inequality generally increases involvement from lower socioeconomic classes (Bryant & Mohai, 1992; Freudenberg & Steinsapir, 1992; Van Liere & Dunlap, 1980). Further, those in the lower-socioeconomic classes suffer the most from health problems that are caused or exacerbated by environmental problems (Eckholm, 1977). Thus, civil rights and socioeconomic factors were seen as extremely relevant for those in the lower-socioeconomic strata.

Coders were also asked to determine the level of scientific jargon found in article content. Coders were given five values to chose from: never use scientific terminology, occasional use of scientific terminology, moderate use of scientific terminology, frequent use of scientific terminology, or heavy use of scientific terminology. It was suggested that as the level of scientific language increased in article content the issue became more relevant to those in upper-socioeconomic classes due to the conflation of education and income in the United States.

The general focus of the article was the last variable coded in this study. Coders were provided eight values for this macro-level, thematic frame. Their choices were government regulation, political debate, judicial legislation, health hazard, scientific study, individual behavior, public protest, or other.

Coding was done by two persons; the two coders generated a high 91.25% inter-coder reliability score for media attributes. Scott's Pi was computed at .60, representing the inter-coder agreement after chance has been removed. The Scott's Pi test depends on basic probability theory and calculates the "chance agreement" based on the proportion of times any

particular value of a category is used (Riffe, Lacy, & Fico, 1998). This test is extremely important in gauging the veracity of results between coders. While still generating a far higher number than what would be expected by chance alone, the somewhat lower *Pi* score was as much a reflection of heavily weighted cases within the categorical variables (as was the case in this study) as it was a removal of chance from the inter-coder reliability percentage (Riffe et al., 1998). For example, when one assumes an even dispersion of cases within the 20 variables coded for this analysis (i.e., a dichotomous variable would assume a .5 probability for each of the two cases), Scott's Pi increases to .88.

Data Analysis

All of the data was analyzed through numerical and statistical measures of frequencies, trends, and associations. Examining frequencies was necessary in order to measure the relative importance of specific variables in relation to each other. Evaluating these frequencies over the entire sample period gave a broader, historical understanding of the strength these variables may or may not possess over time. Finally, examining the data through associations between variables and newspapers made it possible to evaluate whether the variables differed among media outlets—which would suggest that the alternative press do indeed offer a unique perspective for its readers.

RESULTS

Frequencies

Industry was found to be the overwhelming cause of pollution within the United States (72.9%). The standard error of this proportion was .009, suggesting that the industry cause frame in the general media population could be as high as 73.8 percent or as low as 72%. The relatively small standard error of proportion (SE(p)) found throughout this study was a reflection of the large sample size and the lack of variability in case values (Riffe et al., 1998).

A majority of the content, 59.1% ($SE(p) = .01001$), suggested neutral effects of air pollution. Of the remaining content, 31.3% framed the individual as experiencing the main effects of pollution. Of this percentage, the near totality of references was to personal health. Only 7.7% of newspaper content framed the earth or other natural phenomenon as experiencing the effects of air pollution.

Government was framed as the responsible agent for air pollution in 78.7% ($SE(p) = .0084$) of content. Of this small individual percentage, frames were divided among auto use (16.7%, $SE(p) = .1522$) and minimizing consumable goods and boycotting businesses (33.33% each, $SE(p) = .1922$; Figure 1).

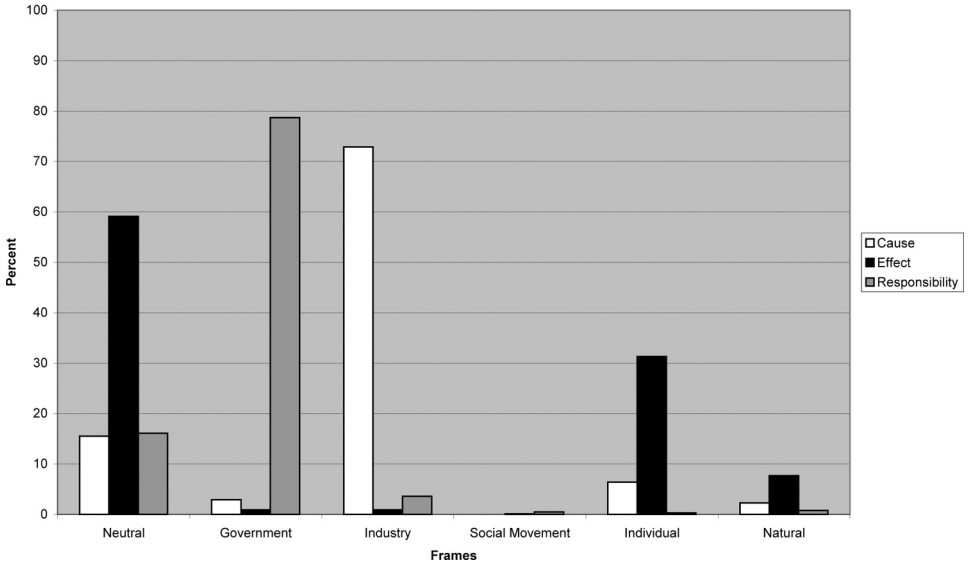

FIGURE 1 Cause, effect and responsibility attribute dimensions in environmental media.

Therefore, Hypothesis 1, which stated that individuals and non-profit citizen organizations will be less likely to be framed in newspaper coverage as the cause, effect, and responsible agent for the pollution than the government, industry, natural forces, or neutral frames, was supported.

A near totality of content found absolutely no mention of any solutions for air pollution (95.4%, $SE(p) = .0043$). Ninety-eight percent of content ($SE(p) = .0026$) did not mention the term activist. Hypothesis 2, which stated that newspaper coverage of pollution will be less likely to mention possible solutions than to mention no likelihood of solving pollution, was supported.

Further, 85% ($SE(p) = .0072$) of total content did not use the term *environmentalist*. Civil rights and socioeconomic class factors were not mentioned in almost all of the content covering 29 years (99.8%, $SE(p) = .0009$ and 98.7%, $SE(p) = .0023$ respectively). Hypothesis 3, which stated that newspaper coverage of pollution will be less likely to mention the term *environmentalist*, civil rights and socioeconomic factors than to omit mentioning these in coverage, was supported.

Fifty-five percent of language ($SE(p) = .0102$) was coded as never using scientific jargon and 40.7% ($SE(p) = .0101$) as only moderate usage of scientific language. Therefore, Hypothesis 4, which stated that newspaper coverage of pollution will be less likely to use simple terminology than to rely on a heavy use of scientific terminology in coverage, was rejected.

Finally, the general macro frame of newspaper articles over 29 years of air pollution coverage was found to be government regulation (52.1%,

$SE(p) = .0102$). Scientific studies (11.1%), judicial legislation (6.7%) and other frames (16.9%) comprised the bulk of remaining air pollution macro-frames. Hypothesis 5, which stated that newspaper coverage of pollution will be less likely to thematically frame the issue through the seven other frames offered than to thematically frame the issue as government regulation, was supported.

In sum, coverage attributes were found to be overwhelmingly relevant to upper-socioeconomic individuals in all media outlets: 72.9% of coverage suggested industry as the cause of pollution; 58.4% of individual cause frames suggested auto use as the individual cause of pollution; 59.1% found neutral effects of pollution; 78.7% framed government as the responsible agent; individual responsibility frames were divided between auto use, minimizing consumable goods and boycotting businesses as the individual responsibilities of pollution; 99.8% of coverage did not mention civil rights; 98.7% of coverage did not mention socioeconomic class factors; and 52.1% of articles presented the general macro frame as government regulation. Only two variables contradicted this overwhelming socioeconomic bias within media content. The first was the language difficulty measure, which found that 55% of content was easy to understand. The second was the individual effect attribute dimension of pollution that found 98.9% of effects within the attribute to be personal health.

Trends

Trends across variables were fairly constant over the 29-year period sampled. The effect attribute dimension remained stable as did the individual levels of cause, effect and responsibility. Civil rights and socioeconomic status stayed absent in media coverage over the 29-year sample. Finally, government regulation was consistently the macro frame used throughout content.

Yet, there were some slight shifts in coverage. Some trends appeared to indicate a shift toward indifference: natural causes for pollution became more likely while individual causes were less likely as time passed; neutral responsibility for pollution was more likely and government responsibility became slightly less common. However, in contradiction with the these findings, it also became slightly more likely that a solution to pollution was mentioned in the text as time passed. The terms *activist* and *environmentalist* were slightly more likely to be used in media content and the language difficulty appeared to decrease over time. However, while these shifts do indicate some level of change all of these gradations were extremely small and were not statistically significant. Therefore, Hypothesis 6, which stated that newspaper coverage of pollution is less likely to demonstrate statistically significant changes over the 29-year sample period than to cover pollution consistently over the 29-year sample period, was supported.

Associations

Significance was measured through three statistical measures: chi square *p* values; Cramer's V, which suggests if any found significance is also important to the population; and adjusted residual scores, or the difference between expected and observed counts that demonstrates actual effects of this relationship. Strong effects of a particular case of one variable on a particular case of another variable were found if adjusted residuals were +/−5 points. Further, Cramer's V also indicated additional strength or weakness of an apparent association. This test of strength was evaluated along a 0 to +1 scale, with 1 indicating a significant relationship that is also large in the population. Taken in total, "Cramer's V and chi-square make it possible to distinguish between a small but nonetheless real association between two variables in a population and an association that is both significant and relatively more important" (Riffe et al. 1998, p. 167). These approaches were taken in tandem for greater clarity and to compensate for the increased incidence of significance purely because of sample size. With such a large set of data, high significance values were expected, necessitating other tests of strength to measure actual associations (Babbie, 1998). Thus, many of the results presented combined several approaches to ascertain the true relational significance between different variables.

An examination of the relationship between collapsed coded variables and two newspaper categories according to geography (New York and Los Angeles region) found four significant relationships with very weak strength between the two variables and no measurable effects (30.76%) eight insignificant relationships between variables (61.53%), and one relationship that could not be measured due to wholly skewed data uniformly across all newspapers, alluding to an insignificant relationship (7.69%).

The relationship between collapsed coded variables and two newspaper categories according to socioeconomic readership levels (high socioeconomic readership and low socioeconomic readership) found the same results but among different categories: four significant relationships with very weak strength between the two variables and no measurable effects (30.76%) eight insignificant relationships between variables (61.53%), and one relationship that could not be measured due to wholly skewed data uniformly across all newspapers, alluding to an insignificant relationship (7.69%).

In examining associations according to size of ownership within the general lower-socioeconomic pool of newspapers, there was no statistically significant difference between newspapers. In both Los Angeles and New York, the smaller, individually owned African American newspapers that targeted lower-socioeconomic readers had no difference in content compared to the larger, corporate-owned newspapers that targeted lower-socioeconomic readers. Thus, for simplicity, all of the newspapers within

the lower-socioeconomic target group (Los Angeles: *Los Angeles Herald Dispatch, Los Angeles Sentinel*, *Southeast Wave Star*, *Southside Journal*, *San Bernardino Sun*, *Herald Examiner*, and *Los Angeles Daily News*; New York: *New York Voice*, *New York Beacon*, *Amsterdam News*, New York Daily News, and *New York Post*) continued to be pooled together.

Thus, all relationships found either no relationship between variables, weak relationships between variables with no measurable effects or could not be computed due to heavily skewed data across all newspapers. Computation of significance in relationships with no measurable effects were attributed to the large sample size according to previous research. Thus, if a relationship found significance but showed only very weak effects on variables coded, it was concluded that no meaningful relationship existed.

In comparing these overwhelming frequencies across newspapers, strength in relationships according to newspaper source were extremely small (Table 1). From the 26 statistically measurable relationships between coded variables and four newspaper categories (*New York Times*, New York low socio economic status [SES], *Los Angeles Times*, Los Angeles low SES), there was an extreme uniformity across all papers. Heavily weighted coverage that could not have been found through random chance alone was further tested through both the runs test and the binomial test. These tests indicated an overwhelming skew in the data among *all* dichotomous variables. The overwhelming frequency of certain frames was pervasive among all different types of newspapers. This finding suggested that coverage was in some way biased and statistically unfair.

In examining the three central attribute dimensions that were coded (cause, effect, and responsibility), there was extreme similarity across newspapers (Table 2). The largest percentage of differences between papers was only $+/-.5$ percent (Table 3). Perhaps even more striking is the summation of data through a Spearman rank correlation coefficient (*Rho*). The correlation between papers is almost a perfect score of one (Table 4), reflecting almost total agreement across geography and across socioeconomic readership. Therefore, Hypothesis 7, which stated *The New York Times* and *The Los Angeles Times* will be less likely to report socioeconomic relevance and community involvement than the lower-socioeconomic newspapers in both regions, was rejected.

DISCUSSION

When all of the coding categories are taken as a whole, the result is nearly monolithic coverage. All of the coded variables found either no relationship between varying types of newspapers and coverage, weak relationships that showed no actual effects or relationships that could not be computed due to heavily skewed data (strongly indicating no particular relationship). It is

TABLE 1 Newspaper Associations (by Geography & Socioeconomic Readership) among Coding Categories.

Associations	*P* value	Cramer's V	Adjusted residual	Relationship
SES × cause	.134			Insignificant
Geography × cause	.005	.059	+/−2.9	Weak significance
SES × effect	.595			Insignificant
Geography × effect	.134			Insignificant
SES × responsibility	.170			Insignificant
Geography × responsibility	.000	.082	+/−4.0	Weak significance
SES × individual cause	.002	.248	+/−3.1	Weak significance
Geography × individual cause	.823			Insignificant
SES × individual effect	.615			Insignificant
Geography × individual effect	.373			Insignificant
SES × individual responsibility	Not interpretable			Not interpretable
Geography × individual responsibility	Not interpretable			Not interpretable
SES × solution likelihood	.020	.048	+/−2.3	Weak significance
Geography × solution likelihood	.036	.043	+/−2.1	Weak significance
SES × activist mention	.424			Insignificant
Geography × activist mention	.407			Insignificant
SES × environmentalist mention	.009	.054	+/−2.6	Weak significance
Geography × environmentalist mention	.317			Insignificant
SES × civil rights	.760			Insignificant
Geography × civil rights	.320			Insignificant
SES × SES	.127			Insignificant
Geography × SES	.842			Insignificant
SES × language	.985			Insignificant
Geography × language	.007	.068	+/−2.7	Weak significance
SES × macro frame	.000	.095	+/−4.6	Weak significance
Geography × macro frame	.303			Insignificant

Note. SES = Socioeconomic status.

important to reiterate here that the large sample size was certain to inflate even the weakest relationships that may have shown no real effect between variables.

Regardless of socioeconomic readership, newspaper size, type of ownership, geographic location, specific issue or time, coverage concerning the environmental movement was invariable across all newspapers throughout the 29 years sampled. The lopsided coverage was so strong that the majority

TABLE 2 Synopsis of Attribute Dimensions Across Newspapers.

Attribute dimensions	NY times	NY (low SES)	LA times	LA (low SES)
Cause				
Neutral	4.7%	3.4%	5.9%	6.3%
Government	.8%	1.0%	1.2%	.7%
Industry	25.3%	24.9%	24.0%	22.5%
Social mvmt	0%	0%	0%	0%
Individual	2.2%	3.7%	.6%	2.3%
Natural	.1%	.1%	1.4%	1.3%
Effect				
Neutral	21.5%	18.4%	18.2%	20.6%
Government	.3%	.5%	.1%	.1%
Industry	.4%	.5%	.1%	0%
Social mvmt	0%	.1%	0%	0%
Individual	8.4%	11.6%	11.0%	10.9%
Natural	2.5%	2.0%	3.6%	1.5%
Responsibility				
Neutral	4.8%	3.9%	7.1%	5.0%
Government	27.2%	27.5%	24.6%	25.7%
Industry	.9%	1.5%	.8%	1.6%
Social mvmt	.2%	.3%	.1%	0%
Individual	0%	0%	0%	.2%
Natural	0%	0%	.4%	.6%
Total	100%	100%	100%	100%
n^a	1992	1536	2082	1470

Note. mvmt = movement; NY = New York; LA = Los Angeles; SES = Socioeconomic status.
[a]$N = 7080$.

TABLE 3 Percentage of Differences in Attribute Dimensions Across Newspapers.

	New York (low SES)	Los Angeles times	Los Angeles (low SES)
New York Times	−0.1	0.5	0
NY (low SES)		0.3	0.1
Los Angeles Times			−0.2

Note. SES = Socioeconomic status.

TABLE 4 Spearman's Rho of Attribute Dimensions Across Newspapers.

	New York (low SES)	Los Angeles times	Los Angeles (low SES)
New York Times	.9737	.9601	.9759
NY (low SES)		.9576	.9704
Los Angeles Times			.9771

Note. SES = Socioeconomic status.

of dimensions coded had frames encompassing over ninety percent of coverage throughout each of the 29 years sampled.

As other scholars have found, there are significant consequences to information learned through the media. These consequences have been found to be so profound that one scholar argued "we need to go beyond representation to the recognition that *media constitute reality* (original italics included)" (Angus, 1989, pp. 339). Framing scholars have charged that by examining how an issue is framed, one can uncover how the qualities (Jasperson, Shah, Watts, Faber, & Fan, 1998) of an issue help create the "reality-definition function of the media" (Takeshita, 1997).

The "reality" learned from 29 years of environmental coverage appeared to be overwhelmingly relevant to upper-socioeconomic groups. Yet, those in the lower-socioeconomic classes suffer the most from health problems that are caused or exacerbated by environmental degradation (Eckholm, 1977). It could certainly be argued that those in the bottom socioeconomic strata presumably have the largest stake in environmental improvement in whatever form that takes, whether that is knowledge about the issues or participation in a community environmental organization to prevent further environmental degradation. Indeed, balanced media representation is crucial to an environmental movement that has increasingly addressed issues pertinent to an extensive cross-section of society (Van Liere & Dunlap, 1980). In examining environmental pollution, Ader (1995) concluded that the public actually needs the media to tell them about the importance of the environment. Otherwise, individuals will not learn this information from real-world cues and will continue to view the environment as unimportant. When readers are exposed to environmental information that discusses actual losses to the current generation, there is a sharp rise in the intent of readers to participate in environmentally responsible behaviors, such as conservation and recycling (Davis, 1995). It is worthwhile to note that those from upper-socioeconomic groups participate more in environmental organizations (Taylor, 2000) even though those in lower-socioeconomic groups have demonstrated equal, or more, concern about environmental issues (Mohai, 1985). Thus, future research should examine if heavily weighted coverage toward upper-socioeconomic groups may be having an impact on participation levels in environmental causes.

One of the principle points of opposition against the present media merger frenzy is the fear that a monolithic media will create content that is one-dimensional. This is based on the precept that a multiplicity of outlets will offer a multiplicity of voices (Bagdikian, 2000; Gitlin, 1980; Shoemaker & Reese, 1991). Yet, this research found that during nearly 30 years of environmental pollution coverage, newspapers were almost entirely monolithic in their content. All of the newspapers in this sample were owned by different parent companies (both large conglomerates and individual private owners) leading one to reasonably conclude that no influences at the organizational

level were found. In this case, media ownership and organization-specific routines and values did not dictate coverage. Whether the coverage was from the *New York Beacon* or the *New York Times*, the content was unchanging. This suggests that diversification of media outlets could prove irrelevant unless fundamental changes occur within the journalism industry as a whole. Given this outcome, Shoemaker and Reese's (1990) hierarchy of influences should be re-examined in the context of singular issues, such as pollution, over a protracted period of time. Organizational values that previously were thought to have a purposeful force in the newsroom may not be as powerful over an extended period of time. Clearly, further research is needed to better understand the forces that created the monolithic coverage found in this study.

As previous research has indicated, there are two predominant factors that surpass most individual newspapers and permeate the entire newspaper industry: the reliance on advertiser support and the values and norms of journalism itself. It is unclear from this study which of these two factors is the primary reason for the monolithic coverage that was found. Yet, the fact that this research found evidence of uniformity in content outside of organizational-specific factors suggests future research in this area is needed. Due to the heavily weighted coverage towards upper-socioeconomic groups, it would appear that advertising is a powerful influence on media content—a finding that previous research has supported (i.e., Bagdikian, 2000). Advertisers may be exerting pressure—either indirectly or directly—on media managers in their search for consumers with more buying power.

Yet, it is also possible that Gans' original assertion of journalism values, which have remained unchanged over the past 20 years, may need to be expanded to include aristocraticism. Reviving Gans' original study may be appropriate given the profound changes in the media industry over the last decade alone. This possibility has not yet been discussed and could play an important role in the future education of journalists.

In addition, personal interviews with media managers, reporters, and advertisers, coupled with a closer inspection of content as it relates to consumer appeals, could help illustrate the impact of outside financial support on content. The information learned in this area of research would be a necessary and worthwhile contribution to the education of future journalists, both in the classroom and in the newsroom.

REFERENCES

Ader, C. R. (1995). A longitudinal study of agenda setting for the issue of environmental pollution. *Journalism & Mass Communication Quarterly*, *72*, 300–311.

Angus, I. H. (1989). Media beyond representation. In I. H. Angus & S. Jhally (Eds.), *Cultural politics in contemporary America* (pp. 333–346). New York: Routledge.

Babbie, E. (1998). *The practice of social research* (8th ed.). Belmont, CA: Wadsworth Publishing.

Bagdikian, B. (2000). *The media monopoly* (6th ed.). Boston, MA: Beacon Press.

Beaudoin, C. E. & Thorson, E. (2002). A marketplace theory of media use. *Mass Communication & Society*, *5*, 241–262.

Beech, B. M., Droker, S., Pree-Cary, J., & Scarinci, I. (2000, November). *Smoking initiation among low-income African Americans: Qualitative assessment of contributing factors*. Paper presented to the American Public Health Association.

Berkowitz, D. (1992). Who sets the media agenda? The ability of policymakers to determine news decisions. In J. D. Kennamer (Ed.), *Public opinion, the press, and public policy* (pp. 81–102). Westport, CT: Praeger.

Blankenburg, W. B. (1992). The viability of the comprehensive daily newspaper. *Newspaper Research Journal*, *13*(2), 68–80.

Boylan, J. (1986). Declarations of independence. *Columbia Journalism Review*, *25*, (November/December).

Breed, W. (1955). Social control in the newsroom: A functional analysis. *Social Forces*, *33*, 179.

Bryant, B. & Mohai, P. (Eds.). (1992). *Race and the incidence of environmental hazards: A time for discourse* (pp. 1–9). Boulder, CO: Westview Press.

Bullard, R. D. (Ed.) (1994). *Unequal protection: Environmental justice and communities of color*. San Francisco, CA: Sierra Club Books.

CNN. (1999). *Education, income tied to world population growth*. http://www.cnn.com/US/9910/13/population.youth.surge/#r.

Compaine, B. (1985). The expanding base of media competition. *Journal of Communication*, *35*, (Summer), 81–96.

Curtin, P. A. (1996). Market-driven journalism: A test of two models and their implications for public relations information subsidies and journalist-practitioner relations. *Dissertation Abstracts International*, *57*, 07A.

Davis, J. L. (1995). The effects of message framing on response to environmental communications. *Journalism & Mass Communication Quarterly*, *72*, 285–299.

Demers, D. P. (1996). Corporate newspaper structure, profits and organizational goals. *The Journal of Media Economics*, *9*, 1–23.

Dreier, P. (1982). The position of the press in the U.S. power structure. *Social Problems*, *29*, 298–310.

Eckholm, E. P. (1977). The picture of health: Environmental programs. *Society*, *14*, 63–66.

Environmental Defense. (2000). *Pollution locator: Criteria air pollution—A nationaloverview*. http://www.scorecard.org/env-releases.

Freudenberg, N. & Steinsapir, C. (1992). Not in our backyards: The grassroots environmental movement. In R. E. Dunlap & A. G. Mertig (Eds.), *American environmentalism: The U.S. environmental movement, 1970–1990* (pp. 27–37). New York: Taylor & Francis.

Gans, H. J. (1979). *Deciding what's news*. New York: Pantheon Books.

Gitlin, T. (1980). *The whole world is watching: Mass media in the making and unmaking of the new left*. Berkley: University of California Press.

Gross, R., Craft, S., Cameron, G. T., & Antecol, M. (2002). Diversity efforts at the *Los Angeles Times*: Are journalists and community on the same page? *Mass Communication & Society*, *5*(3), 263–277.

Hallin, D. (1992). The passing of the 'high modernism' of American journalism, *Journal of Communication*, *42*(3).

Howell, S. & Fagan, D. (1988). Race and trust in government: Testing the political reality model. *Public Opinion Quarterly*, *52*, 343–350.

Jasperson, A. E., Shah, D., Watts, M., Faber, R. J., & Fan, D. (1998). Framing and the public agenda: Media effects on the importance of the Federal Budget Deficit. *Political Communication*, *15*, 205–224.

Jeffres, L. (1986). *Mass media processes and effects*. Prospect Heights, IL: Waveland Press.

Klandermans, B. & Tarrow, S. (1988). *International social movement research: A research annual: From structure to action: Comparing social movement research across cultures*. Greenwich, CT: JAI.

Koschat, M. & Putsis, Jr., W. P. (2000). Who wants you when you're old and poor? Exploring the economics of media pricing. *The Journal of Media Economics*, *13*, 215–232.

Lee, C. (1992). Toxic waste and race in the United States. In B. Bryant & P. Mohai (Eds.), *Race and the incidence of environmental hazards: A time for discourse* (pp.10–27). Boulder, CO: Westview Press.

Lippman, W. (1921). *Public opinion*. New York: Macmillan.

McClintic, R. (Ed.). (1998). *Marketer's guide to media: 1998–1999* (volume 21). New York: ASM Communications.

McManus, J. (1994). *Market-driven journalism: Let the citizen beware?* Thousand Oaks, CA: Sage.

Mohai, P. (1985). Public concern and elite involvement in environmental-conservation issues. *Social Science Quarterly*, *66*, 820–838.

Prochnau, W. (2000). Down and out in L.A. *American Journalism Review*, (January/February), 58–77.

Reese, S. (1990). The news paradigm and the ideology of objectivity: A socialist at the Wall Street Journal. *Critical Studies in Mass Communication*, *7*, 390–409.

Reese, S. & Ballinger, J. (2001). The roots of a sociology of news: Remembering Mr. Gates and social control in the newsroom. *Journalism & Mass Communication Quarterly*, *78*(Winter), 641–658.

Reese, S. & Danielian, L. (1989). Intermedia influence and the drug issue: Converging on cocaine. In P. J. Shoemaker (Ed.), *Communication campaigns about drugs: Government, media, public* (pp. 29–46). Hillsdale, NJ: Lawrence Erlbaum.

Riffe, D., Lacy, S., & Fico, F. (1998). *Analyzing media messages: Using quantitative content analysis in research*. Mahwah, NJ: Lawrence Erlbaum.

Schwab, J. (1994). *Deeper shades of green: The rise of blue-collar and minority environmentalism in America*. San Francisco, CA: Sierra Club Books.

Shoemaker, P. & Reese, S. (1990). Exposure to what? Integrating media content and effect studies. *Journalism Quarterly*, *67*, 649–652.

Shoemaker, P. & Reese, S. (1991). *Mediating the message: Theories of influences on mass media content*. White Plains, NY: Longman Publishing Group.

Schoenbach, K. & Bergen, L. (1998). Commentary: Readership research—challenges and changes. *Newspaper Research Journal*, *19*(2), 88–102.

Schoenbach, K., Lauf, E., McLeod, J. M., & Scheufele, D. A. (1999). Research note: Distinction and integration, socioeconomic determinants of newspaper reading in the USA and Germany, 1974–96. *European Journal of Communication*, *14*, 225–239.

Schoenfeld, A. C., Meier, R. F., & Griffin, R. J. (1979). Constructing a social problem: The press and the environment. *Social Problems*, *27*, 38–61.

Tan, A. (1985). *Mass communication theories and research*. New York: J. Wiley.

Takeshita, T. (1997). Exploring the media's roles in defining reality: From issue-agenda setting to attribute-agenda setting. In M. McCombs, D. Shaw & D. Weaver (Eds.), *Communication and democracy: Exploring the intellectual frontiers in agenda-setting theory* (pp. 15–27). Hillsdale, NJ: Lawrence Erlbaum.

Taylor, D. E. (2000). The rise of the environmental justice paradigm. *American Behavioral Scientist*, *43*, 508–580.

Tuchman, G. (1978). *Making news: A study in the construction of reality*, New York: Free Press.

Van Liere, K. D. & Dunlap, R. E. (1980). The social bases of environmental concern: A review of hypotheses, explanations and empirical evidence. *Public Opinion Quarterly*, *44*, 181–197.

White, D. M. (1950). The gatekeeper: A case study in the selection of news. *Journalism Quarterly*, *27*(Autumn), 383–390.

World Health Organization. (1997). *Tobacco or health: A global status report*. Paper presented to World Health Organization, Geneva, Switzerland.